



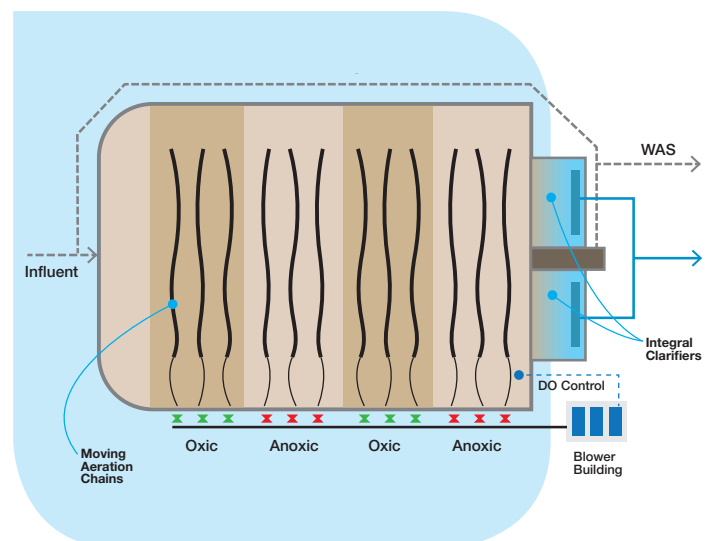
# Biolac<sup>®</sup> System Wave-Ox<sup>™</sup> Plus

## Biological Nutrient Removal with MixMode<sup>™</sup> Energy Reduction Technology (ERT)

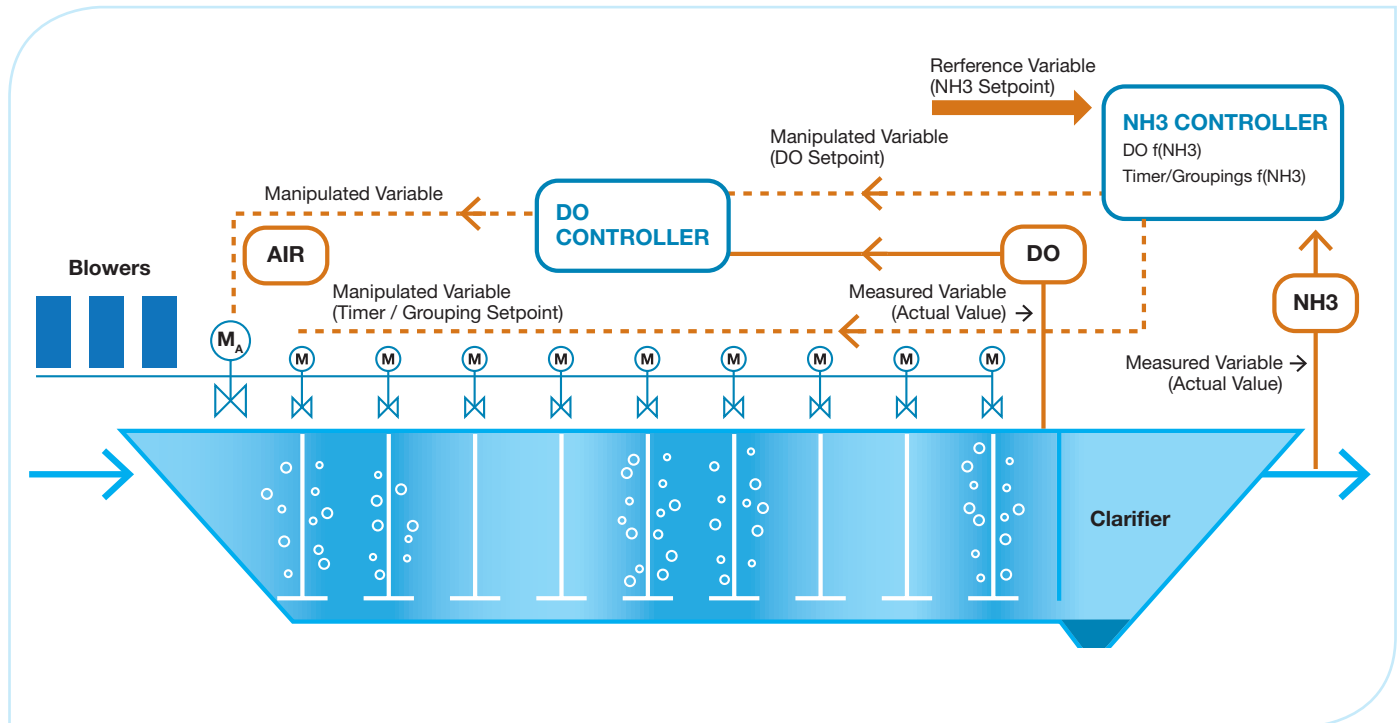
Biological nutrient removal (BNR) is simple and affordable with the Biolac<sup>®</sup> Wave-Ox<sup>™</sup> Plus process. Proven by hundreds of successful installations, the Wave-Ox<sup>™</sup> Plus process is a simple, single basin total nitrogen removal process developed specifically for the Biolac System's unique, long sludge age process and moving aeration chain design. Automatic control of the air flow distribution to the moving aeration chains creates unique moving waves of multiple oxic and anoxic zones. This repeated cycling of environments nitrifies and denitrifies the wastewater in the long sludge age Biolac basin without nitrate recycle, separate staging or additional external basins. Nitrogen removal to 5 mg/l is typical with many municipal installations achieving <3 mg/l total N.

Parkson has now taken this user-friendly solution to the next level in automatic operation and efficiency with the patent-pending Wave-Ox<sup>™</sup> Plus process with MixMode<sup>™</sup> energy

reduction technology. Wave-Ox<sup>™</sup> Plus process control automatically adjusts the oxic vs. anoxic conditions in the basin to continuous delivery optimized process performance at the lowest possible energy usage.



## Wave-Ox™ Plus with MixMode™ Energy Reduction Technology (ERT)



All wastewater treatment plants are dynamically loaded as influent flows and loads change depending on the time of day, day of the week and season of the year. The innovative Wave-Ox™ Plus process automatically optimizes the process conditions over a wide range of influent conditions to maximize total nitrogen removal at the lowest possible energy usage. Rather than relying on DO control of the process and manual aeration system adjustments, the Wave-Ox™ Plus process uses continuous online effluent NH3 measurement to automatically adjust the DO setpoint, the aeration chain timer and their sequence to maximize the total nitrogen removal capability of the process while minimizing air and energy usage.

The result is an automatically tuned process that maximizes total nitrogen removal continuously without manual, operator intervention, even as influent loads to the process change dramatically.

MixMode™ technology insures this optimum treatment is achieved with the lowest possible energy usage. Only enough air to consistently optimize the level of total nitrogen removal is used, and no more. MixMode™ automatically uses the minimum amount of air needed to mix the basin during times of low load. The aeration system automatically adjusts up and down as needed to maintain optimum total nitrogen removal and mixing with minimal energy usage.



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